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THE FOOD SERVICE WORKER AND THE TRAVIS AIR FORCE BASE
EXPERIMENTAL FOOD SYSTEM: WORKER OPINION AND JOB
SATISFACTION

Lawrence E. Symington, et al

Army Natick Development Center
Natick, Massachusetts

April 1975

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TECHNICAL REPORT

75-94-FSL

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WORKER OPINION AND JOB SATISFACTION**

by

Lawrence E. Symington

and

Herbert L. Meiselman

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April 1975

**UNITED STATES ARMY
NATICK DEVELOPMENT CENTER
NATICK, MASSACHUSETTS 01760**



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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER 75-94-FSL	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) THE FOOD SERVICE WORKER AND THE TRAVIS AIR FORCE BASE EXPERIMENTAL FOOD SYSTEM: WORKER OPINION AND JOB SATISFACTION		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) Lawrence E. Symington and Herbert L. Meiselman		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS J. S. Army Natick Development Center Natick, Massachusetts 01760		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS U. S. Army Natick Development Center Natick, Massachusetts 01760 AMXNM-YBH		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 6.2 1J662713AJ45, Task 03
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE April 1975
		13. NUMBER OF PAGES 32
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release; Distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Service Requirement Identification: AF 3-19-Food Service Systems Analysis		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Food Service Systems Job Satisfaction Environmental Design Food Service Workers Travis Air Force Base Human Factors Dining Facilities		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Surveys and interviews were administered to both civilian and military food service workers at Travis Air Force Base, both before and after dining system changes, to assess job satisfaction, opinions about additional training, and opinions about environmental and equipment features relevant to potential human factors problems. Results indicated no differences in job satisfaction, as measured by the Job Description Index, between the Before and After Groups. Overall, both military and civilian workers expressed least satisfaction with promotions, pay,		

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20. Abstract (cont'd)

and the work itself and more satisfaction with their co-workers and supervision. In the human factors area, workers were particularly concerned with the noise, design of the kitchens, and the quality of the equipment. Some young military workers expressed a desire to leave the food service area. A recommendation for the inclusion of worker opinion analysis in future assessments of the food service system is made.

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PREFACE

The authors wish to express their appreciation to the staff members of Behavioral Sciences Division, Food Sciences Laboratory (Dr. Harry L. Jacobs, Chief) who contributed to this effort. Specifically Jan Shipe, Patricia McCarthy, and SP4 Deborah Maas are recognized for their assistance in reducing the data for this report. Dr. Laurence Branch also assisted in the development of the initial survey and CPT James Siebold reviewed the manuscript and contributed to the method of data analysis.

The cooperation of Mr. Gerald Hertweck of the Natick Development Center, Operations Research/Systems Analysis Office (Project Manager) and LTC Robert Pope, the Air Force Representative of the Natick Development Joint Technical Staff, DoD Food RDT & Eng Program is gratefully acknowledged.

We would also like to thank Dr. E. Ralph Dusek and Dr. Bruce Bell of the U.S. Army Research Institute for Behavioral and Social Sciences, and Dr. Stephen Motowildlo of Personnel Decisions, Inc., Minneapolis, Minnesota for their assistance; and Dr. Patricia Smith for her permission to use the Job Description Index.

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INTRODUCTION

The input of behavioral science into the analysis of food service systems in the military was originally limited to assessment of customer food preferences. As part of a 1970 systems analysis of the food service system at Fort Lewis, Washington, however, Behavioral Sciences Division, Pioneering Research Laboratory (currently Food Sciences Laboratory) US Army Natick Development Center altered this scope to include customer opinion of the entire food service system (Branch and Meiselman, 1972), as well as revising the food preference assessment methodology (Meiselman, et. al., 1972). Although thorough, these efforts did not include consideration of an extremely important part of the overall system, the food service worker. A trained, motivated food service worker is as important to the success of a food service system as raw food quality, excellent equipment, and a facility which is well designed environmentally.

For several years in areas outside of food service, job satisfaction and job enrichment have been active areas. Within the civilian food service sector there has been increasing interest in the worker (Hodgkin, 1974). There is also strong evidence for the increasing visibility of the worker in the military food service system. Natick Development Center is presently involved in a Navy Project to assess the training program for the food service worker, and is considering the opinion of the worker in a study of the Army and Marine field feeding system (Meiselman, et. al., 1975). The initial effort of the Behavioral Sciences Division in the worker area, however, has been in an Air Force study to evaluate the garrison food service system*. Travis Air Force Base, California was selected by the Air Force as the principal study site, with Minot Air Force Base, North Dakota and Homestead Air Force Base, Florida being chosen as ancillary sites.

This report deals with the portion of the system study concerning the job satisfaction and training of the food service workers, both military and civilian. Its purpose is to identify the problems which the workers find in their system and the factors which might form the basis of a more satisfied food service worker. Specifically, this report is concerned with the worker response at Travis Air Force Base and the effects on that response of the changes implemented at Travis dining facilities in the experimental evaluation of the food service system. Preliminary results from these efforts have already been presented to professionals in two diverse areas: food (Symington, 1974a) and human factors (Symington, 1974b).

*Task 03, Project Number 1J662713AJ45, Analysis and Design of Military Feeding Systems, and Task 03, Project Number 1J662713A034, Military Food Service and Subsistence Technology.

METHOD

Copies of the Food Service Worker Survey and the two interview forms are contained in Appendix B. The combined instrument was developed by the Behavioral Sciences Division, Food Sciences Laboratory with the assistance of the U.S. Army Research Institute for Behavioral and Social Sciences, Arlington, VA and Personnel Decisions, Inc., Minneapolis, MN.

The survey/interview package was administered twice at Travis AFB, once prior to dining facility renovations (Before Group) June 1973 and once after renovations (After Group) December 1973. The package was given individually to 20 military and 61 civilian food service employees before renovations and to 27 military and 66 civilian food service employees after renovations (41 of the civilians and 12 of the military were surveyed both times). Table 1 shows the distribution of employees surveyed, before and after renovations, across food service facilities. Renovations were accomplished only in Dining Halls 1 and 7, and then almost exclusively in the eating portion of the facilities, not in the kitchen areas. A few pieces of cooking equipment were added in the kitchens of 1 and 7, and menus were revised in all dining facilities based on customer preferences.

The survey/interview package consisted of the following components for both the Before and After Groups except as noted:

1. **JOB DESCRIPTION INDEX.** The Job Description Index (JDI) developed by Patricia C. Smith at Cornell University (Smith, et. al., 1969) is a standard paper and pencil instrument which measures satisfaction with five areas: the type of work, the pay, the opportunities for promotion, the supervision, and the co-workers on the job. Each area is evaluated by responses to a list of adjectives or descriptive phrases (eighteen words and phrases each for work, supervision and co-workers; nine each for pay and promotions). Figure 1 shows the format and form of the adjectives from the work scale. If a word or phrase on a scale is descriptive of his job, the respondent is instructed to circle the "Y" (Yes) next to the word. If the word or phrase doesn't describe his work he is asked to circle "N" (No). A "?" (question) response is used for those items on which the respondent cannot decide or which he doesn't understand.

Note that the format and instructions do not ask the respondent directly how satisfied he is with his work; therefore, the responses have a job-referent rather than a self-referent. Nevertheless, the respondent does provide information from which his satisfaction can be inferred.

Table 1. Distribution of Workers Surveyed at Travis AFB

			FACILITY					
			Dining Hall 1	Dining Hall 3	Dining Hall 7	Bakery	In Flight Kitchen	New Facilities
B E F O R E	G R O U P	Civilian	22	14	18	2	5	0
		Military	5	5	4	2	4	0
A F T E R	G R O U P	Civilian	24	11	16	2	7	5
		Military	8	4	8	3	3	1

Figure 1. Format for the Work Scale of the Job Description Index (JDI)

WORK

Fascinating	Y	N	?
Routine	Y	N	?
Boring	Y	N	?
Good	Y	N	?

Based on several respondents who were asked to describe the best and worst possible jobs for themselves, the developers of the JDI determined which response should be scored as satisfied for each item. For example, in Figure 1, "fascinating" and "good" are scored in the satisfied direction if the individual responds yes; and "routine" and "boring" are scored in the satisfied direction if the individual responds no.

The scoring suggested for the JDI by Smith departs from traditional methods in scoring satisfied answers as 3, dissatisfied answers as 0 and "?" answers as 1. This departure is based on the response of the sample mentioned above where it was concluded that the ? response was more indicative of dissatisfaction than of satisfaction. For each area of the JDI the range of possible scores is from 0 -- 54 with scores on each word or phrase being summed on the work, supervision and co-workers scales; and summed, then doubled, on the pay and promotions scales.

2. DEMOGRAPHIC INFORMATION. Information was collected concerning characteristics of the individual worker which might be expected to affect job satisfaction. Respondents were asked questions about their rank or grade level, age, sex, job level, length of time in Air Force food service, education, and attitude toward military service (military personnel only).

3. HUMAN FACTORS. Twelve questions concerning the working environment and equipment were addressed to the workers in the Before Group. The items were constructed in a traditional semantic differential format -- bipolar adjectives with five response points (Osgood, et. al., 1957). A thirteenth question dealing with the quality of equipment was added to these twelve for the After Group based on results from interviews conducted with the Before Group.

4. INTERVIEW. Following the written survey, each worker was interviewed individually concerning his past training and what additional training he felt he might need to do his job better, or to be promoted. Additional interview questions concerning changes in the food service system and facilities during the Natick Development Center experiment were posed to the After Group.

RESULTS & DISCUSSION

Job Description Index (JDI). Table 2 shows the overall mean responses of the civilian and military food service workers to the five scales of the JDI for both the Before and After renovations Groups, and provides norms from a non-food service civilian sample (Smith, et. al., 1969).

Table 2. Mean Responses to the JDI

	Before		After		Norms
	Military	Civilian	Military	Civilian	
Supervision	42.85	36.15	37.30	39.06	41.10
Co-workers	38.85	34.59	37.96	35.21	43.49
Work	26.40	29.48	26.07	28.73	36.57
Promotion	23.00	22.10	22.96	21.55	22.06
Pay	19.30	30.46	20.89	29.27	29.90

Overall, it can be seen that the workers were least satisfied with pay, promotion, and the work itself; and more satisfied with the people with whom they work and the supervision. Note, however, that the satisfaction expressed by the civilians was less than the norms in all areas but pay and promotion; and less in all areas but promotion for the military. So, while absolute satisfaction with promotion was low, it is virtually identical to the norm. Conversely, within the Travis data satisfaction with co-workers is relatively high, yet is 4 to 6 points below the normative score. The largest differences between the Travis data and the norms fall in two areas, satisfaction with work (for both military and civilian) and satisfaction with pay (for military only). Since military pay is not within the purview of food service, this suggests that anyone interested in improving satisfaction of the food service worker should concentrate on two areas, the work itself and the promotion situation, with a tertiary effort in the area of co-worker relations.

From the same table it can be seen that there were no changes in satisfaction after the renovations undertaken at Travis. Data were further broken down to examine the possibility that before and after job satisfaction might differ only for workers in the dining facilities which were physically changed (1 and 7). None of these comparisons were statistically significant, indicating no change in satisfaction whether renovations occurred in the specific facility worked in or not. In some respects one might have anticipated lower satisfaction for two main reasons: the fact that the changes were oriented toward the customer, and a general feeling of being harassed that this type of change with its concomitant visiting "experts" and "VIP'S" might bring to the workers. Apparently, however, this was not the case.

The table also contains data which show that, for the most part, the Travis civilian food service workers were about as satisfied (or dissatisfied as the case may be) with their jobs as were the military workers. Neither the apparent difference in the Before Group showing the military as more satisfied than the civilians with supervision (Kolmogorov - Smirnov $D = .260$, $p > .05$) nor the apparent difference in the After Group showing the civilians as more satisfied with pay (Kolmogorov - Smirnov $D = .256$, $p > .05$) are statistically significant. The difference in the satisfaction with pay between civilian and military in the Before Group is significant (Kolmogorov - Smirnov $D = .420$, $p < .01$). It may be that this relative dissatisfaction of the military worker is partially a function of the wage range of the civilian workers in the Travis dining facilities. This is only a supposition, however, without some notion of satisfaction with pay for other airmen of similar rank at Travis and/or data bearing on airmen working with civilians who are paid less than the Travis civilian workers.

Table 3 shows mean responses to those individual words or phrases in the five JDI Scales where there were differences between Before and After Group means (recall that satisfied responses were scored 3, dissatisfied were scored 0, and "?" responses were scored 1 so that a lower mean score implies less satisfaction).

TABLE 3
Differences Between Means of Individual JDI Items:
Before vs After Group

	Before Group Mean	After Group Mean	
Work			
Tiresome	1.22	1.62	0 = dissatisfied response
Hot	0.68	1.40*	1 = ? response
Supervision			3 = satisfied response
Doesn't supervise enough	1.60	2.03	

* X^2 , $p < .01$

As might be expected, since there are basically no differences before and after for the scales themselves, only three of the individual items show differences of .40 or greater, all indicating greater satisfaction in the After Group. The only one of these which is significant, "hot",¹ is more likely a reflection of the change in season (Before Group surveyed in June, After Group in December) rather than a change in job satisfaction. The other two differences (not significant) indicate the possibility of an increase in supervision and a lessening of how tiresome the work seemed after the renovations.

If one compares the mean responses of military and civilian workers to the individual words or phrases in the five scales there are several differences which are significant (Table 4). Responses to specific items in the work area indicated that both Before² and After³ military groups felt that they were less respected for their work than did their civilian counterparts; that the Before Group military found their work less satisfying than the Before Group civilians⁴; and that the After Group military, for some reason, felt that their work was less hot than did their fellow civilians.⁵ The result concerning the lack of respect felt by the military workers is of particular interest since such a feeling could certainly influence their attitude toward the customers as well as toward their careers, and would suggest that some attention be paid to altering the customers' image of the military food service worker.

In the supervision area, the After civilians felt that the supervision left them more on their own⁶ and was less hard to please⁷ than did the After military. These particular results are interesting in that in 9 of the other 16 items in the supervision scale, the After Group military were more satisfied with the supervision (although not significantly) than the civilians and the Before Group military were more satisfied in 15 out of the 16 other items (significantly in only two instances: "influential"⁸ and "tells me where I stand"⁹). These data suggest that the supervisors, who were themselves military for the most part, may have been actively supervising their fellow military workers while adopting a more laissez-faire attitude toward the civilians. It is recognized that the problem of the military supervisor and the civilian worker is far from a straightforward and simple one, particularly when a union is involved. However, these data suggest an area with potential for attention in any attempts to increase job satisfaction and morale.

The other differences in responses to specific items in the JDI for military and civilian workers fell in the pay area. The Before and After military were more inclined than the civilian workers to say that the pay was bad^{10,11} and that they were underpaid^{12,13}. The After military group also felt that they were less able to afford luxuries with their salaries¹⁴. This certainly indicates an area of dissatisfaction; but, as was stated earlier, falls beyond the responsibility of food service.

¹Numerical footnotes refer to the X² statistics which are contained in Appendix A.

**Table 4. Differences Between Military and Civilian Means
on Individual JDI Items**

		Before Group		After Group			
		Civilian	Military	Civilian	Military		
Work	Respected	2.13	**	1.35	1.78	***	0.96
	Satisfying	2.34	*	1.60	2.08		1.85
	Hot	0.69		0.65	1.11	* ²	2.11
Supervision	Leaves me on my own	2.28		1.80	2.62	***	1.59
	Hard to please	2.12		2.00	2.47	***	1.48
	Influential	1.53	*	2.30	1.42		1.63
	Tells me where I stand	1.48	*	2.35	1.79		1.89
Pay	Bad	2.08	*	1.20	2.38	*	1.56
	Underpaid	2.03	*	1.05	1.76	*	1.04
	Can afford luxuries	0.93		0.75	0.94	*	0.33

* X^2 , $p < .05$
 ** X^2 , $p < .02$
 *** X^2 , $p < .01$

Demographic Factors. Table 5 shows the relationship between some characteristics of the individual worker which might be expected to affect job satisfaction and scores from the five scales of the JDI. There are two items of general import. First, there is apparently very little consistency in any effects of demographic factors between the Before and After Groups. Second, those significant effects which do occur appear mainly in interaction with scores on the satisfaction with work scale.

More specifically, the only effect statistically significant for both Before¹⁵ and After¹⁶ Groups was in the interaction between the number of years spent in a food service career (either in or out of the military) and satisfaction with the work itself (the longer the worker had been in food service, the higher his score tended to be on the work scale of the JDI). The military workers' statement of how much he either liked or disliked the military was significantly related to scores on the work scale for the After Group¹⁷ and in the same direction (those who like the military being more satisfied) for the Before Group (here N was too small for X^2).

In addition statistically significant relations indicated that, for the Before Group, the older the worker¹⁸ and the higher the level of his job¹⁹, the higher his satisfaction score tended to be on the work scale. In the After Group, there was a significant effect of the facility in which the individual worked, with the workers in dining halls 7 and 1 being least satisfied with their work and those in 3 (the dining hall with no changes in the experiment) being most satisfied.²⁰

In the area of satisfaction with the supervision, in the Before Group, the higher the military rank or the civilian wage grade²¹ and the longer the worker had been in food service²² the more satisfied the worker seemed to be with his supervision.

The higher the grade or rank²³ and the more a military worker likes the military,²⁴ in the After Group, the more satisfied the worker tended to be with his co-workers.

On the satisfaction with pay scale, the one significant interaction occurred in the After Group and indicated that the longer the person had worked in food service, the more satisfied he was with pay.²⁵ In the Before Group, the more an airman likes the military may also be related to higher satisfaction with pay (again N too small for X^2).

The attitude of the military worker toward the military is the only factor interacting with satisfaction with promotion (positive opinion being related to satisfaction), significantly in the After Group²⁶ and in the same direction for the Before Group (again N too small for X^2).

To recapitulate, then, the demographic factors influencing job satisfaction to the greatest extent were the number of years spent in food service, grade or rank, and, for the military workers, attitude toward the military all of which may be, themselves, highly interrelated.

Table 5. Demographic Interaction with JDI Scores

Before Group						
JDI Scale	Age	Grade or Rank	Job	Years in Food Service	Facility	Like/Dislike of Military
Work	***		*	*		A
Supervision		**		*		
People						
Pay						A
Promotion						A
After Group						
	Age	Grade or Rank	Job	Years in Food Service	Facility	Like/Dislike of Military
Work				*	**	*
Supervision						
People		***				*
Pay				***		
Promotion						**

* $p < .05$

** $p < .02$

*** $p < .01$

A — strong differences, N's too small for X^2 .

Human Factors. Figure 2 shows the mean responses to the twelve questions asked concerning the working environment and equipment. Data is presented in the order of the largest differences between the Before and After groups with the exception of the responses to the question about quality of equipment which was not addressed to the Before Group.

The data can be discussed with either an absolute (positive or negative overall) or relative (before vs after) orientation. In the former sense, it appears that the workers were most satisfied with lighting, roominess, lack of insects, and a lack of safety hazards; and were least satisfied with the noise, design of the kitchen, and quality of the equipment.

A sign test (8 positive, 3 negative, $p < .033$) indicates that the workers were significantly more satisfied with their kitchens' environments and equipment after the dining hall renovations than before. In some ways this is a surprising finding since, although a few new pieces of equipment were placed in the kitchens, by far the most extensive renovations were made in the eating areas of the facilities (and none made in Dining Hall 3 at all).

These data were examined further to separate responses from Dining Halls 1 and 7 where the physical renovations occurred and Dining Hall 3 where only menu changes took place. Table 6 indicates that in only one category (dirty-clean kitchen area) the workers in Dining Hall 3 (no physical changes) gave a significantly more positive rating²⁷ after the changes. In three categories -- noisy-quiet²⁸, crowded-uncrowded²⁹, and old-new equipment³⁰ -- the workers in the renovated facilities gave significantly more positive ratings after the changes. If one looks at all 11 categories in the human factors questionnaire ignoring statistical significance, the "change" group (Facilities 1 and 7) gave only one rating as more positive before the changes while the "no change" group (Facility 3) gave a more positive before rating for 6 of the 11.

These data taken together indicate that the overall improvement in attitude in the human factors area was probably somehow related to the actual renovations. It is possible that the attitude change was related to the Hawthorne effect: basically an increase in satisfaction or production just because someone takes an active interest in your work --, or somehow related to a sort of "halo effect" carrying over from the renovations in the eating area.

Three of the differences shown in Figure 2 are significant. The After Group judged their equipment to be newer than the Before Group³¹ -- not surprising since, as stated above, some new equipment was put into the kitchens. (It is noteworthy that the After Group did not rate the quality of their equipment much higher than neutral even though they maintained that it was new.) The After Group also rated the kitchen as more quiet³² and as having fewer safety hazards.³³

Figure 2. Mean Responses to Human Factors Questions

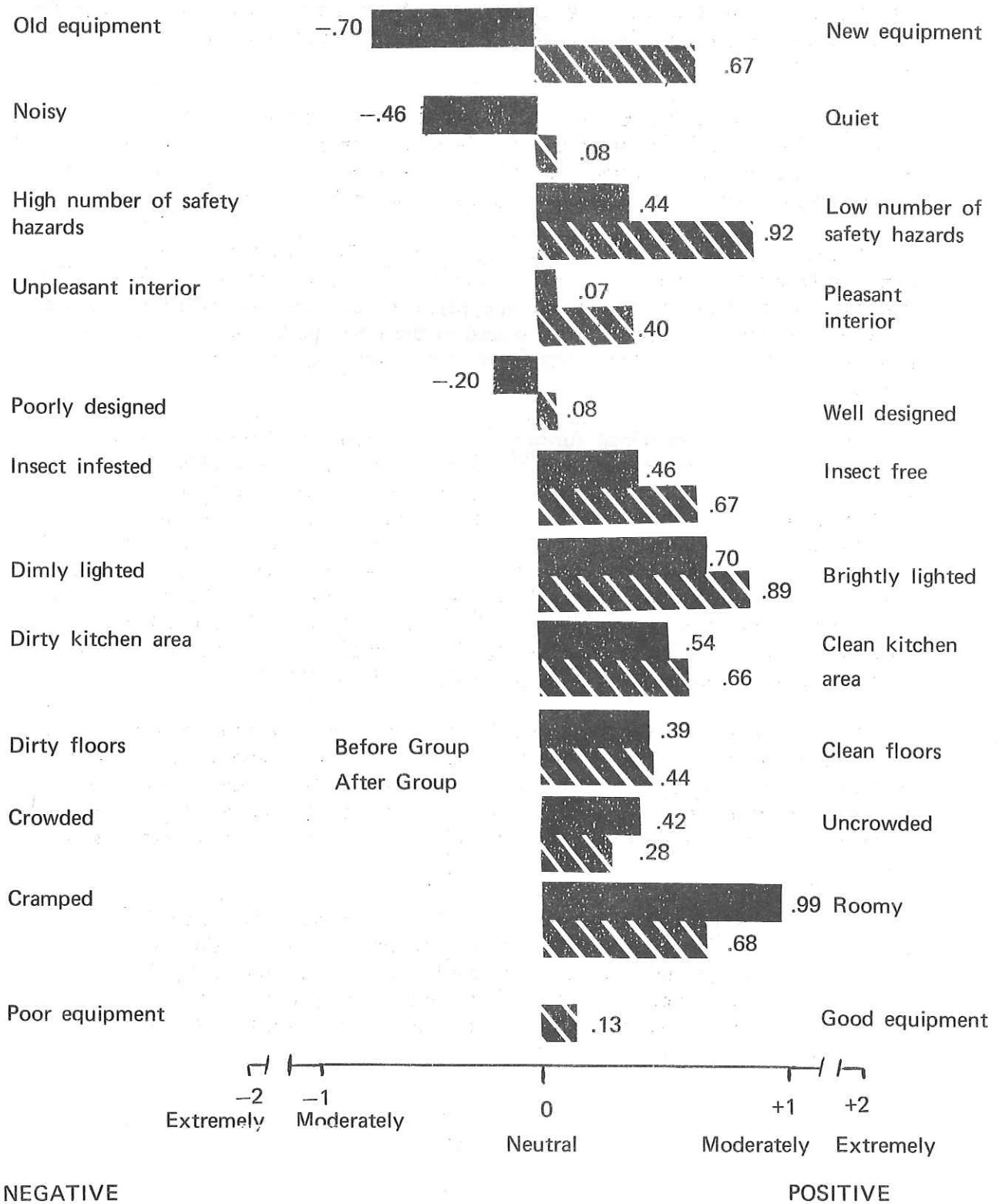


Table 6. Human Factors Responses for Changed and Non-Changed Facilities

(Significant Differences Only)

	Changed	Not Changed	
Dirty kitchen area	--	B < A**	Clean kitchen area
Noisy	B < A**	--	Quiet
Crowded	B < A*	--	Uncrowded
Old equipment	B < A***	--	New equipment

B < A means before satisfaction response less positive than after response

*p < .05

**p < .01

***p < .001

Interview. Results of the interview administered to the Before Group indicate that out of 81 workers asked what they liked best about their job, 19 said it was interesting, 18 said they liked the people they work with, and 15 (all civilians) cited the pay. Asked to indicate what they disliked about their job, 25 out of 81 said that they thought more workers were needed. About half of these 25 were food service workers (civilian "KP's") who thought they should have more help, yet seven of the responses were from shift leaders or dining hall supervisors. The other major dislike category was equipment; six citing old equipment and five, poor equipment.

The most frequent response to the question about where training had been received was on the job training (OJT) at Travis (47 of 81 workers). There were very few workers, either civilian or military, who were trained in a formal classroom food service course. Nine had received Army Training (three of these at Fort Lee) and only one had been trained at the Lowry AFB Air Force School. With regard to the latter finding, recall that these interviews were conducted in June of 1973 and the Lowry school had only been in operation for a short period.

Over 75% of the workers (62 of 81) felt that they needed no more training to do their present job better. Of those who felt they needed training, most would opt for cook refresher (11 of 19) or management refresher (8 of 19) courses. (Note that the same person could, and in some instances did, say that he wanted training in more than one area).

Less than half of the workers (39 of 81) expressed a desire to be trained for a more advanced job in food service. Of the 42 who didn't want more training many were in their sixties (9) and/or had been in food service for several years (10) -- again the same person may have fallen in both categories. The major concern, however, in this group of 42 is that approximately 1/3 of the military workers (7 of 20) -- the younger ones in almost every instance -- said they wanted no further training because they wished to leave the food service field, not necessarily the Air Force.

Of the 39 who wanted advanced training, again the major areas of interest were cooking (27) and administration/management (13).

The After Group interview dealt almost exclusively with the changes in the Travis system. In response to a question about a change in their attitudes toward their jobs in the experimental system, 51 workers reported a change in attitude while 27 reported no change. The most common reason given for a positive feeling about the new system was the change in appearance and atmosphere of the dining area (9 of 51). Workers responding along these lines reported enjoying the more attractive atmosphere and/or expressed the feeling that the customers, responding to the atmosphere, were more polite to them. Four more workers specifically mentioned customers being happier as the major reason for a positive change in their jobs. In another area of satisfaction, six workers responded favorably to the new equipment introduced in the experimental system.

Workers were also asked what was worse about their job in the new system with 14 responding that there was too little help to handle the changes. Probably related to this are the complaints of 11 workers who said that there was now too much work in the new system. Sixteen complained directly about the "clipper carts" -- wheeled racks for dirty trays and dishes -- claiming that the carts were difficult to maneuver, and that the entire procedure of the customer filling the carts and workers taking them to the clipper room was inefficient, resulting in runouts of clean trays, dishes, and utensils. Personal observations by the authors in the dining facilities confirmed the fact that such runouts did indeed occur, although such observation does not necessarily verify the conclusion that the inefficiency of the carts were the total cause of the problem. Sixteen workers cited other new pieces of equipment as being problems of one sort or another (i.e., new oven has only two cooking positions, steamer doesn't work, etc.).

Twenty two workers reported receiving training for the new system from NDC, with 14 rating the training as good or very good. In response to the question about needing more training to do their present job better, 74 of 92 workers answered no. This figure of 80% is very close to the 77% who responded identically in the Before Group. Again, less than half of the workers (45 of 92) expressed a desire to be trained for a more advanced job in food service. For those who desired more training, supervision (15 workers) and cooking (21 workers) were again the major areas of interest.

Of the 47 who wanted no further training, 9 gave age or preparation for retirement and 16 cited sufficient experience already attained as reasons. Twelve more workers maintained that they were satisfied with their present jobs and didn't want to advance.

Eleven workers expressed the desire to leave food service, including five airmen. The percentage of military workers desiring to leave food service was smaller (5 of 27, 18.5%) than in the Before Group.

Responses to the last general opportunity in the interview to add anything about the food service system at Travis reinforced some of the opinions expressed earlier in the surveys and interviews with insufficient personnel (13 responses), poor equipment (12 responses) and slow promotions (8 responses) being cited. The largest response category in this area, however, was centered around complaints about the supervision (19 responses). While at first glance this appears to contradict the positive attitude reflected in the JDI scores, comparison of interview data with responses to the supervision scale shows that most workers who criticized the supervision in the interview also rated it low on the JDI.

CONCLUSIONS AND RECOMMENDATIONS

1. The most obvious conclusion based on the responses to the JDI is that the renovations to the food service facilities and changes in the food service system at Travis, which were mainly oriented toward the customer, did not appear to adversely affect worker satisfaction. As a matter of fact, based on some of the interview responses and the higher rating of the working environment by the After Group, such changes may even have been a positive factor from the workers' point of view.
2. The military food service workers felt less respected for and less satisfied with their work than did their civilian counterparts. Such a feeling could conceivably affect their attitudes toward the customer and their careers. It is recommended that some attention be paid to altering the customer's image of the military food service worker and, concurrently, the workers's own image of his work.
3. It is recommended that more detailed analysis be made of the reasons prompting the young military food service workers to express the intention of leaving the food service career field. Any improvement in this situation would certainly be beneficial to Air Force food service.
4. Several demographic factors appear to interact with job satisfaction at Travis. Of these, the more important variables are grade or rank, number of years spent in a food service career, and, for the military workers, the attitude toward military service.

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Appendix A Statistics

1. $X^2 = 10.59$, 1 df, $p < .01$
2. $X^2 = 6.60$, 1 df, $p < .02$
3. $X^2 = 7.56$, 1 df, $p < .01$
4. $X^2 = 4.07$, 1 df, $p < .05$
5. $X^2 = 6.34$, 1 df, $p < .02$
6. $X^2 = 9.24$, 1 df, $p < .01$
7. $X^2 = 9.77$, 1 df, $p < .01$
8. $X^2 = 4.02$, 1 df, $p < .05$
9. $X^2 = 4.02$, 1 df, $p < .05$
10. $X^2 = 4.03$, 1 df, $p < .05$
11. $X^2 = 5.26$, 1 df, $p < .05$
12. $X^2 = 4.03$, 1 df, $p < .05$
13. $X^2 = 4.09$, 1 df, $p < .05$
14. $X^2 = 6.47$, 1 df, $p < .02$
15. $X^2 = 11.54$, 1 df, $p < .05$
16. $X^2 = 4.59$, 4 df, $p < .05$
17. $X^2 = 4.90$, 1 df, $p < .05$
18. $X^2 = 16.77$, 4 df, $p < .01$
19. $X^2 = 9.62$, 4 df, $p < .05$
20. $X^2 = 12.77$, 4 df, $p < .02$
21. $X^2 = 8.73$, 2 df, $p < .02$
22. $X^2 = 6.93$, 2 df, $p < .05$
23. $X^2 = 13.13$, 2 df, $p < .02$
24. $X^2 = 6.68$, 2 df, $p < .05$
25. $X^2 = 14.23$, 4 df, $p < .01$
26. $X^2 = 6.40$, 1 df, $p < .02$
27. $X^2 = 8.20$, 1 df, $p < .01$
28. $X^2 = 14.59$, 4 df, $p < .01$
29. $X^2 = 9.82$, 4 df, $p < .05$
30. $X^2 = 48.49$, 4 df, $p < .001$
31. $X^2 = 54.95$, 4 df, $p < .001$
32. $X^2 = 15.03$, 4 df, $p < .01$
33. $X^2 = 10.59$, 3 df, $p < .02$

Appendix B

USAF SCN 74-95

Military

FOOD SERVICE PERSONNEL SURVEY

The purpose of this survey is to find out how you feel about some of the conditions of your job. Please answer every question CAREFULLY and HONESTLY. We will talk to each of you individually in the next few days, and you will be able to make any comments which do not fit into the answers on this survey at that time. Because of this interview, we need your name on this survey. **NO INDIVIDUAL SURVEY WILL EVER BEEN SEEN BY ANYONE AT THIS AFB OR IN THE AIR FORCE!** If you answer all of the questions honestly, we will be able to present your opinions, as a group, to the organization working on the Food Service System for the Air Force.

1. Name
2. Facility number (To be supplied by testers)
3. Rank
4. Age YRS
5. Shift: From To
6. How long have you worked in food service at this AFB? YRS MONTHS
7. How long have you worked in food service in your AF career? YRS MONTHS
8. What do you do in your present job?
9. Circle the ONE letter showing your HIGHEST level of education
 - a. Some Grade School
 - b. Finished Grade School
 - c. Some High School
 - d. High School Graduate (includes GED)
 - e. Post High School Technical Training
 - f. Some College
 - g. College Graduate
 - h. Beyond College
10. Circle the letter showing how much you like military service.
 - a. Dislike very much
 - b. Dislike moderately
 - c. Dislike a little
 - d. Neutral
 - e. Like a little
 - f. Like moderately
 - g. Like very much

FOOD SERVICE PERSONNEL SURVEY

The purpose of this survey is to find out how you feel about some of the conditions of your job. Please answer every question CAREFULLY and HONESTLY. We will talk to each of you individually in the next few days, and you will be able to make any comments which do not fit into the answers on this survey at that time. Because of this interview, we need your name on this survey. **NO INDIVIDUAL SURVEY WILL EVER BE SEEN BY ANYONE AT THIS AFB OR IN THE AIR FORCE!** If you answer all of the questions honestly, we will be able to present your opinions, as a group, to the organization working on the Food Service System for the Air Force.

1. Name
2. Facility Number (To be supplied by Messengers)
3. Grade Level
4. Age YRS
5. Shift: From To
6. How long have you worked in food service at this AFB? YRS MONTHS
7. How long have you worked in food service in your entire career? YRS MONTHS
8. What do you do in your present job?
9. Circle the ONE letter showing your HIGHEST level of education.
 - a. Some Grade School
 - b. Finished Grade School
 - c. Some High School
 - d. High School Graduate (includes GED)
 - e. Post-High School Technical Training
 - f. Some college
 - g. College Graduate
 - h. Beyond College

Food Service Personnel Survey (cont'd)

Description of the Work, People, Pay, Promotions and Supervision on Your Present Job

Below are five groupings of items. Each group represents some aspect of your present job. We'd like you to indicate your feelings about these aspects by circling "Y" (yes) if the item is descriptive of your present job. "N" (no) if it is not descriptive and "?" if you cannot decide.

Again, we appreciate your cooperation.

WORK

Fascinating	Y	N	?
Routine	Y	N	?
Satisfying	Y	N	?
Boring	Y	N	?
Good	Y	N	?
Creative	Y	N	?
Respected	Y	N	?
Hot	Y	N	?
Pleasant	Y	N	?
Useful	Y	N	?
Tiresome	Y	N	?
Healthful	Y	N	?
Challenging	Y	N	?
On Your Feet	Y	N	?
Frustrating	Y	N	?
Simple	Y	N	?
Endless	Y	N	?
Gives sense of accomplishment	Y	N	?

SUPERVISION

Asks my Advice	Y	N	?
Hard to Please	Y	N	?
Impolite	Y	N	?
Praises Good Work	Y	N	?
Tactful	Y	N	?
Influential	Y	N	?
Up-to-date	Y	N	?
Doesn't supervise enough	Y	N	?
Quick-tempered	Y	N	?
Tells me where I stand	Y	N	?
Annoying	Y	N	?
Stubborn	Y	N	?
Knows job well	Y	N	?
Bad	Y	N	?
Intelligent	Y	N	?
Leaves me on my own	Y	N	?
Around when needed	Y	N	?
Lazy	Y	N	?

PEOPLE

Stimulating	Y	N	?
Boring	Y	N	?

PEOPLE, CONT'D

Slow	Y	N	?
Ambitious	Y	N	?
Stupid	Y	N	?
Responsible	Y	N	?
Fast	Y	N	?
Intelligent	Y	N	?
Easy to Make Enemies	Y	N	?
Talk too much	Y	N	?
Smart	Y	N	?
Lazy	Y	N	?
Unpleasant	Y	N	?
No privacy	Y	N	?
Active	Y	N	?
Narrow Interests	Y	N	?
Loyal	Y	N	?
Hard to meet	Y	N	?

PAY

Income adequate for normal expenses	Y	N	?
Satisfactory profit sharing	Y	N	?
Barely live on income	Y	N	?
Bad	Y	N	?
Income provides luxuries	Y	N	?
Insecure	Y	N	?
Less than I deserve	Y	N	?
Highly paid	Y	N	?
Underpaid	Y	N	?

PROMOTIONS

Good opportunity for advancement	Y	N	?
Opportunity somewhat limited	Y	N	?
Promotion on ability	Y	N	?
Dead-end-job	Y	N	?
Good chance for promotion	Y	N	?
Unfair promotion policy	Y	N	?
Infrequent promotions	Y	N	?
Regular promotions	Y	N	?
Fairly good chance for promotion	Y	N	?

Food Service Personnel Survey (cont'd)

For each pair of items below, please indicate your opinion of the GENERAL CONDITION OF YOUR KITCHEN by checking the line which comes closest to describing your feelings

	Extremely	Moderately	Neutral	Moderately	Extremely	
Clean kitchen area	—	—	—	—	—	Dirty kitchen area
Insect infested	—	—	—	—	—	Insect free
Dirty Floors	—	—	—	—	—	Clean floors
Brightly lighted	—	—	—	—	—	Dimly lighted
Quiet	—	—	—	—	—	Noisy
Crowded	—	—	—	—	—	Uncrowded
Roomy	—	—	—	—	—	Cramped
Poorly designed	—	—	—	—	—	Well designed
Low number of safety hazards	—	—	—	—	—	High Number of Safety hazards
Unpleasant interior appearance	—	—	—	—	—	Pleasant interior appearance
New equipment	—	—	—	—	—	Old equipment
HOT	—	—	—	—	—	COLD
Poor Equipment	—	—	—	—	—	Good Equipment

FOOD SERVICE PERSONNEL INTERVIEW (BEFORE)

NAME

Facility

Shift

DATE & TIME OF INTERVIEW

1. What specific things do you like about working here?
 - a.
 - b.
 - c.
 - d.
2. What specific things do you dislike about working here?
 - a.
 - b.
 - c.
 - d.
3. Are there any specific comments you would like to add to the paper and pencil survey you took earlier?
 - a.
 - b.
 - c.
4. What training (Air Force or non-Air Force) have you had in food service? Tell me how good you think this training was based on the scale on this card.
(Interviewer record number) Rating 1-5
 - a.
 - b.
 - c.
 - d.
 - e.
 - f.
 - g.
5. What additional training do you feel you need either to do your job better or to advance?
 - a.
 - b.
 - c.

FOOD SERVICE PERSONNEL INTERVIEW (AFTER)

NAME

DATE & TIME OF INTERVIEW

1. Are there any comments you would like to add to the paper and pencil survey you took earlier?

a.

b.

2. Is there any change in how you feel about your job since the introduction of the new food service system in the past few months?

YES

NO

NEW SYSTEM ONLY

If YES, What's better about the new system?

a.

b.

c.

If NO, what's worse about the new system?

a.

b.

c.

3. Did you have special training as part of the new food service system introduced in the past few months? YES NO

If YES, how would you rate the training? (Show scale)

If YES, would you say you now do a better job after receiving the training?

4. Do you NOW feel that you need MORE training to do your present job better?

If YES, What type of training?

5. Do you feel you want additional training to advance in food service?

If YES, what type of training?

If NO, why not?

6. Is there anything else you would like to add about the food service system at Travis?

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